UNITED STATES PATENT AND TRADEMARK OFFICE

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EXAMINER
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2617	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

	Application No.	Applicant(s)
	10/090,499	DEZONNO ET AL.
Office Action Summary	Examiner	Art Unit	
	MATTHEW W. GENACK	2617	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on <u>19 March 2009</u>.

2a) ☐ This action is **FINAL**.   2b) ☒ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) <u>1-20</u> is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) <u>1-20</u> is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a) ☐ All b) ☐ Some * c) ☐ None of:

      1. ☐ Certified copies of the priority documents have been received.

      2. ☐ Certified copies of the priority documents have been received in Application No. _____.

      3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____

5) ☐ Notice of Informal Patent Application

6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for

all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described
> as set forth in section 102 of this title, if the differences between the subject matter sought to
> be patented and the prior art are such that the subject matter as a whole would have been
> obvious at the time the invention was made to a person having ordinary skill in the art to which
> said subject matter pertains. Patentability shall not be negatived by the manner in which the
> invention was made.

2.   Claims 1, 5-8, 13-15, and 18-19 are rejected under 35 U.S.C. 103(a) as

being unpatentable over Alpdemir, U.S. Patent Application Publication

2002/0035474, in view of Gorin *et al.*, "HOW MAY I HELP YOU?", October

1996, AT&T Research.

        Regarding Claims 1, 8, and 15, Alpdemir discloses a method, system,

and business model for an information system and service having business

self-promotion features whereby consumers call an information center

associated with a business using a regular telephone (Abstract, [0002] Lines

1-7, [0018], Fig. 1). A live agent may handle some calls ([0059], [0110] Lines

1-7). A caller may submit a query pertaining to the activities of the business

([0002], [0018], [0085], [0094], [0141] Lines 1-5). The user's question can then

be translated into Voice Extensible Markup Language (VXML) with a speech-

to-text (STT) conversion engine ([0138] Lines 1-17, Fig. 1). Artificial

intelligence is used in the processing and answering of the query ([0141]

Lines 7-9). A text-to-speech (TTS) engine and speech server are used to

provide the answer to the caller (Abstract, [0139] Lines 1-5, [0143] Lines 1-11, Fig. 1).

Alpdemir does not expressly disclose receiving a query in the form of a natural language sentence, forming natural language answer to said query by correlating the query against a plurality of answers and selecting the most probable answer, and providing the natural language answer so as to simulate a natural language conversation with the caller without use of menu selection.

Gorin *et al.* discloses a method of processing calls in a call processing center, comprising receiving a query in the form of a natural language sentence (Page 2, first column, Lines 2-9, 13, 28, and 43), forming natural language answer to said query by correlating the query against a plurality of answers and selecting the most probable answer (Page 2, first column, Lines 14, 16, 29, 31, 34-39, 44, 46, 48, 57, 59, Page 2 second column, Lines 4 and 7-10), and providing the natural language answer so as to simulate a natural language conversation with the caller without use of menu selection (Page 2, first column, Lines 12-16, 27-31, 42-48, 55-60, Page 2 second column, Lines 1-4).

At the time that the invention was made, it would have been obvious to one of ordinary skill in the art to modify the invention of Alpdemir by providing the means for receiving a query in the form of a natural language sentence, forming natural language answer to said query by correlating the query against a plurality of answers and selecting the most probable answer, and

providing the natural language answer so as to simulate a natural language

conversation with the caller without use of menu selection.

One of ordinary skill in the art would have been motivated to make this

modification in order to provide automated services to non-expert users,

thereby alleviating the burden on human agents of providing responses to

redundant inquiries (Gorin *et al.*: Abstract).

Regarding Claim 5, it is inherent that an artificial intelligence engine

used for answering caller's queries would utilize the expertise and inputs

associated with a live agent.

Regarding Claims 6 and 13, Alpdemir discloses that a personal

computer (PC), personal digital assistant (PDA), or other appliance capable

of displaying HTML pages may submit a query to the information center

(Abstract, [0139] Lines 8-19, Fig. 1).

Regarding Claim 7, the queries are limited to pertaining to the activities

of the business, as outlined above.

Alpdemir does not expressly disclose enabling the artificial intelligence

engine to generalize otherwise indeterminate inquiries.

Gorin *et al.* discloses enabling the artificial intelligence engine to

generalize otherwise indeterminate inquiries (Page 2, first column, Lines 12-

16, 27-31, 42-48, 55-60, Page 2 second column, Lines 1-4).

At the time that the invention was made, it would have been obvious

to one of ordinary skill in the art to modify the invention of Alpdemir by

enabling the artificial intelligence engine to generalize otherwise

indeterminate inquiries.

One of ordinary skill in the art would have been motivated to make this

modification in order to allow the artificial intelligence engine to process

ambiguous input (Gorin *et al.*: Page 2, first column, Lines 34-35).

Regarding Claim 14, Alpdemir discloses that a user may inquire about a

category, a category and a location, or any item or combination of items ([0108]).

Regarding Claim 18, a live agent may handle some calls, as outlined

above.

Regarding Claim 19, Alpdemir discloses that a query may be submitted

via email ([0054]).

3.   Claims 2, 9, and 16 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Alpdemir in view of Gorin *et al.*, further in view of Gavan *et al.*,

U.S. Patent No. 6,601,048, further in view of Dezonmo, U.S. Patent No.

6,233,333.

Neither Alpdemir nor Gorin *et al.* expressly discloses the use of a

caller call record by the artificial intelligence engine in the processing of

a call.

Gavan *et al.* discloses a system and method for processing

event records for the purposes of detecting and managing fraud

(Abstract, Column 2 Lines 18-28). Specifically, in the context of

telecommunications fraud detection, artificial intelligence is used to

monitor event records that are stored in a call history database, said

records containing information pertaining to the identity of the caller and

the called parties (Column 3 Lines 38-64, Column 11 Lines 4-65, Figs.

2 and 4).

At the time that the invention was made, it would have been obvious

to one of ordinary skill in the art to modify the invention of Alpdemir as

modified by Gorin *et al.* by providing for use of call records, said call

records containing information pertaining to identity and contact history, by

an artificial intelligence engine in the processing of a call.

One of ordinary skill in the art would have been motivated to make

this modification so as to provide a less rigid system of pattern analysis in

the processing of a telecommunications traffic (Gavan *et al.*: Column 2

Lines 6-15).

Neither Alpdemir, nor Gorin *et al.*, nor Gavan *et al.* expressly discloses

the simultaneous delivery of a caller call record and said caller's call to a

network device.

Dezonmo discloses an apparatus and method for identifying a call

record that is to be delivered from one automatic call distributor to another

automatic call distributor (Abstract, Column 2 Line 60 to Column 3 Line 13,

Figs. 1-2). Customer records for a caller, and said caller's call, are delivered

to a selected agent simultaneously (Column 7 Lines 30-44).

At the time that the invention was made, it would have been obvious to

one of ordinary skill in the art to modify the invention of Alpdemir as modified by

Gorin *et al.*, as modified by Gavan *et al.* by providing for the simultaneous

delivery of a caller's call and call records to the artificial intelligence engine.

One of ordinary skill in the art would have been motivated to make this

modification in order to expedite the handling of the call (Dezonmo: Column 7

Line 55 to Column 8 Line 3).

4.   Claims 3, 10-11, 17, and 20 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Alpdemir in view of Gorin *et al.*, further in view of Saylor *et al.*,

U.S. Patent No. 6,792,086.

Regarding Claims 3 and 10, neither Alpdemir nor Gorin *et al.*

expressly discloses the conversion of an answer into an extensible

markup language.

Saylor *et al.* discloses a system and method whereby voice codes store

content, said content being accessible by telephone (Abstract, Column 1 Lines

62-66, Column 5 Lines 12-14). A user calls a call processing center, and said

call center processes an information request from said user via a voice

browser module that uses speech recognition to interpret the user's request

for information. This information may be disseminated by an organization

whose purpose is commerce-related (Column 3 Lines 36-41, Column 5 Lines

41-42 and 55). The user may ask a business-related question (Column 17

Lines 13-16). The VXML information may be passed through a TTS in order to

create a sound file that is subsequently played for the user (Column 8 Lines

16-34); alternatively, the VXML information may delivered to the user as a text

file (Column 8 Lines 34-38).

At the time that the invention was made, it would have been obvious to one of ordinary skill in the art to modify the invention of Alpdemir as modified by Gorin *et al.* by providing for the conversion, by the AI engine, of the provided answer into an extensible markup language.

One of ordinary skill in the art would have been motivated to make this modification because the customer may be using a device that is more suited to receiving an answer in extensible markup language form than in the form of synthesized speech.

Regarding Claim 11, Alpdemir discloses that the requested information may be passed through a text-to-speech engine and speech server and played on the user's telephone (Abstract, [0139] Lines 1-5, [0143] Lines 1-11, Fig. 1).

Regarding Claim 17, neither Alpdemir nor Gorin *et al.* expressly disclose the conversion of an answer into an extensible markup language using information from web page documents.

Saylor *et al.* discloses a system and method whereby voice codes store content, said content being accessible by telephone (Abstract, Column 1 Lines 62-66, Column 5 Lines 12-14). A user calls a call processing center, and said call center processes an information request from said user via a voice browser module that uses speech recognition to interpret the user's request for information. This information may be disseminated by an organization whose purpose is commerce-related (Column 3 Lines 36-41, Column 5 Lines 41-42 and 55). The user may ask a business-related question (Column 17 Lines 13-16). The VXML information may be passed through a TTS in order to

create a sound file that is subsequently played for the user (Column 8 Lines 16-34); alternatively, the VXML information may delivered to the user as a text file (Column 8 Lines 34-38). The VXML information may be stored as web pages (Column 4 Line 46 to Column 5 Line 11).

At the time that the invention was made, it would have been obvious to one of ordinary skill in the art to modify the invention of Alpdemir as modified by Gorin *et al.* by providing for the conversion, by the AI engine, of the provided answer into an extensible markup language using information from web page documents.

One of ordinary skill in the art would have been motivated to make this modification because the customer may be using a device that is more suited to receiving an answer in extensible markup language form than in the form of synthesized speech.

Regarding Claim 20, Alpdemir discloses a method, system, and business model for an information system and service having business self-promotion features whereby consumers call an information center associated with a business using a regular telephone (Abstract, [0002] Lines 1-7, [0018], Fig. 1). A live agent may handle some calls ([0059], [0110] Lines 1-7). A caller may submit a query pertaining to the activities of the business ([0002], [0018], [0085], [0094], [0141] Lines 1-5). The user's question can then be translated into Voice Extensible Markup Language (VXML) with a speech-to-text (STT) conversion engine ([0138] Lines 1-17, Fig. 1). Artificial intelligence is used in the processing and answering of the query ([0141]

Lines 7-9). A text-to-speech (TTS) engine and speech server are used to

provide the answer to the caller (Abstract, [0139] Lines 1-5, [0143] Lines 1-

11, Fig. 1). The requested information may be passed through a text-to-

speech engine and speech server and played on the user's telephone

(Abstract, [0139] Lines 1-5, [0143] Lines 1-11, Fig. 1).

       Alpdemir does not expressly disclose receiving a query in the form of a

natural language sentence, forming natural language answer to said query by

correlating the query against a plurality of answers and selecting the most

probable answer, enabling the artificial intelligence engine to generalize

otherwise indeterminate answers, and providing the natural language answer

so as to simulate a natural language conversation with the caller without use

of menu selection.

       Gorin *et al.* discloses a method of processing calls in a call processing

center, comprising receiving a query in the form of a natural language

sentence (Page 2, first column, Lines 2-9, 13, 28, and 43), forming natural

language answer to said query by correlating the query against a plurality of

answers and selecting the most probable answer (Page 2, first column, Lines

14, 16, 29, 31, 34-39, 44, 46, 48, 57, 59, Page 2 second column, Lines 4 and

7-10), enabling the artificial intelligence engine to generalize otherwise

indeterminate answers (Page 2, first column, Lines 12-16, 27-31, 42-48, 55-

60, Page 2 second column, Lines 1-4), and providing the natural language

answer so as to simulate a natural language conversation with the caller

without use of menu selection (Page 2, first column, Lines 12-16, 27-31, 42-48, 55-60, Page 2 second column, Lines 1-4).

At the time that the invention was made, it would have been obvious to one of ordinary skill in the art to modify the invention of Alpdemir by providing the means for receiving a query in the form of a natural language sentence, forming natural language answer to said query by correlating the query against a plurality of answers and selecting the most probable answer, enabling the artificial intelligence engine to generalize otherwise indeterminate answers, and providing the natural language answer so as to simulate a natural language conversation with the caller without use of menu selection.

One of ordinary skill in the art would have been motivated to make this modification in order to provide automated services to non-expert users (Gorin *et al.*: Abstract), and in order to allow the artificial intelligence engine to process ambiguous input (Gorin *et al.*: Page 2, first column, Lines 34-35).

Neither Alpdemir nor Gorin *et al.* expressly disclose the conversion of an answer into an extensible markup language.

Saylor *et al.* discloses a system and method whereby voice codes store content, said content being accessible by telephone (Abstract, Column 1 Lines 62-66, Column 5 Lines 12-14). A user calls a call processing center, and said call center processes an information request from said user via a voice browser module that uses speech recognition to interpret the user's request for information. This information may be disseminated by an organization whose purpose is commerce-related (Column 3 Lines 36-41, Column 5 Lines

41-42 and 55). The user may ask a business-related question (Column 17

Lines 13-16). The VXML information may be passed through a TTS in order to

create a sound file that is subsequently played for the user (Column 8 Lines

16-34); alternatively, the VXML information may delivered to the user as a text

file (Column 8 Lines 34-38).

At the time that the invention was made, it would have been obvious

to one of ordinary skill in the art to modify the invention of Alpdemir as

modified by Gorin *et al.* by providing for the conversion, by the AI engine,

of the provided answer into an extensible markup language.

One of ordinary skill in the art would have been motivated to make this

modification because the customer may be using a device that is more suited to

receiving an answer in extensible markup language form than in the form of

synthesized speech.

5.   Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over

Alpdemir in view of Gorin *et al.*, further in view of Horowitz *et al.*, U.S. Patent

No. 6,349,290.

Alpdemir discloses that the requested information may be passed

through a text-to-speech engine and speech server and played on the user's

telephone (Abstract, [0139] Lines 1-5, [0143] Lines 1-11, Fig. 1).

Alpdemir does not expressly disclose that the method of processing

calls mimics a live agent.

Gorin *et al.* discloses the method of processing calls mimics a live agent (Page 2, first column, Lines 12-16, 27-31, 42-48, 55-60, Page 2 second column, Lines 1-4).

At the time that the invention was made, it would have been obvious to one of ordinary skill in the art to modify the invention of Alpdemir by providing the means for processing calls in a manner that mimics a live agent.

One of ordinary skill in the art would have been motivated to make this modification in order to allow the user to provide clarification to the artificial intelligence engine [just as a live agent is able to receive clarification from a user] (Page 2, first column, Lines 34-39).

Neither Alpdemir nor Gorin *et al.* expressly discloses the use of a caller's identity and contact history by an artificial intelligence engine to support enterprise activities.

Horowitz *et al.* discloses a system and method for the automated, customized presentation of a financial institution's services and products to a customer accessing said financial institution's intelligent voice response (IVR) system via telephone, whereby the system makes use of artificial intelligence (Abstract, Column 5 Lines 21-38, Column 11 Lines 14-27, Column 23 Line 58 to Column 24 Line 9, Column 29 Lines 1-8, Fig. 6). A call is processed according to the caller's identity and contact history (Column 42 Line 53 to Column 43 Line 6, Fig. 35).

At the time that the invention was made, it would have been obvious to one of ordinary skill in the art to modify the invention of Alpdemir as modified

by Gorin *et al.* by providing the means for the artificial intelligence engine to make use of a caller's identity and contact history to support enterprise activities.

One of ordinary skill in the art would have been motivated to make this modification in order to offer products and services to a customer that match the business's perception of said customer's need (Horowitz *et al.*: Column 1 Lines 36-62).

6.   Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Alpdemir in view of Gorin *et al.*, further in view of Saylor *et al.*, further in view of Bigus *et al.*, U.S. Patent Application Publication 2003/0084010.

It is inherent that an artificial intelligence engine used for answering caller's queries would utilize the expertise and inputs associated with a live agent.

Neither Alpdemir, nor Gorin *et al.*, nor Saylor *et al.* expressly discloses the use of forward and backward chaining by an artificial intelligence engine.

Bigus *et al.* discloses the use of forward and backward chaining by an artificial intelligence engine in the context of a method wherein product support services are provided to customers (Abstract, [0011]-[0012], [0086]).

At the time that the invention was made, it would have been obvious to one of ordinary skill in the art to modify the invention of Alpdemir as modified by Gorin *et al.*, as modified by Saylor *et al.* by providing for the use of forward and backward chaining by an artificial intelligence engine.

One of ordinary skill in the art would have been motivated to make this

modification in order to facilitate the identification, by the artificial intelligence

engine, of recurring patterns that indicate an undesirable operational condition

in the process of aiding a customer (Bigus *et al.*: [0087]).

Response to Arguments

7.   Applicant's arguments with respect to Claims 1, 4, 7-8, 15, and 20 have

been considered but are moot in view of the new grounds of rejection,

necessitated by Applicant's amendments, filed 19 March 2009.

8.   Applicant's arguments filed 19 March 2009 have been fully considered but

they are not persuasive.

Applicant asserts, on Page 10 of Remarks, that "Dezonno [sic] delivers the

call to the agent 18C and the records to a terminal display 22C. Thus, they are

delivered to two different destinations, not to a single engine or location".

Dezonmo is relied on only for the teaching of the simultaneous delivery of a call

and call records. Gavan *et al.* is relied on for the teaching of the delivery of

multiple items to an artificial intelligence engine.

Applicant asserts, on Page 11 of Remarks, that "Claim 17 has been

amended to call for using web page documents and incorporating VXML

responses into documents delivered to the caller in response to the call ... This

feature is also not taught by the cited references." On the contrary, Examiner

directs Applicant's attention to the following excerpt from the rejection of Claim

17: " A user calls a call processing center, and said call center processes an

information request from said user via a voice browser module that uses

speech recognition to interpret the user's request for information. This

information may be disseminated by an organization whose purpose is

commerce-related (Column 3 Lines 36-41, Column 5 Lines 41-42 and 55). The

user may ask a business-related question (Column 17 Lines 13-16). The

VXML information may be passed through a TTS in order to create a sound

file that is subsequently played for the user (Column 8 Lines 16-34);

alternatively, the VXML information may delivered to the user as a text file

(Column 8 Lines 34-38)." Furthermore, the VXML information may be stored

as web pages (Column 4 Line 46 to Column 5 Line 11).

Conclusion

9.   Any inquiry concerning this communication or earlier communications from

the examiner should be directed to MATTHEW W. GENACK whose telephone

number is (571)272-7541. The examiner can normally be reached Monday

through Friday from 9 AM to 5 PM.

If attempts to reach the examiner by telephone are unsuccessful, the

examiner's supervisor, Patrick Edouard can be reached on 571-272-7603. The

fax phone number for the organization where this application or proceeding is

assigned is 571-273-8300.

Information regarding the status of an application may be obtained from

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/Matthew W Genack/

Examiner, Art Unit 2617

/Dwayne D. Bost/
Supervisory Patent Examiner,
Art Unit 2617